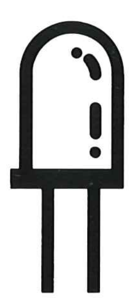
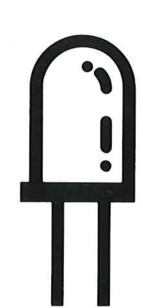
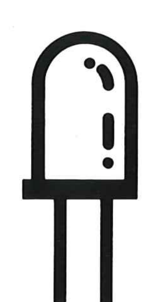
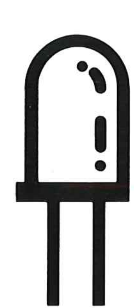
Catalogue Optoelectronique 1980





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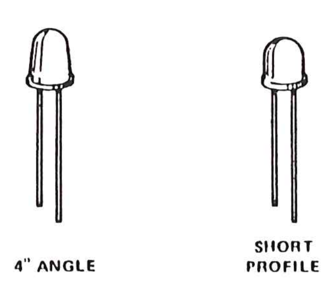
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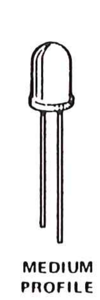
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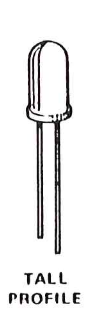


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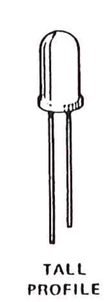
LED VISIBLE LAMP SELECTION GUIDE











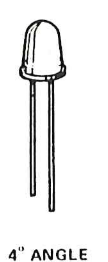
LED Visible Lamps

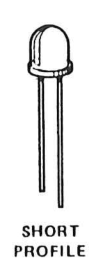
Fairchild Optoelectronics offers one of the broadest ranges of quality LED lamps in the industry, with emphasis on *variety.*

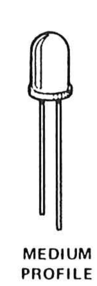
Fairchild Lamp Number Series	Package Size	Package Numbers	Color	Lead Length	Luminous Intensity (Typ/mcd)*	Hardware
FLV (Proprietary)		Opto-4 thru Opto-8	Clear, White, Red, Green, Yellow	¾"	1.0 to 3.2	FLS10
MV (2nd Source to Monsanto)	T1-¾	Opto-9 & Opto-10	Clear, White, Red, Green, Yellow, Amber	1"	1.5 to 20.0	MP52
TIL (2nd Source to TI)		Opto-11	Red, Green, Yellow	½"	4	

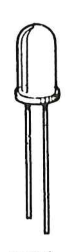
Device No.	Lens Characteristic	I_F mA Typ	Luminous Intensity $I_F = 20$ mA mcd Typ	V_F $I_F = 20$ mA V Typ
FLV104A	Clear	100	(4.0mW/sr)	2.0
FLV110	Red Diffused	20	2.0	1.7
FLV111	Clear Point Source	20	2.0	1.7
FLV112	White Diffused	20	2.0	1.7
FLV117	Red Diffused	50	1.0	1.9
FLV118	Clear Point Source	20	1.0	1.7
FLV140	Red Diffused	20	2.0	1.7
FLV150	Red Diffused	20	2.0	1.7
FLV152	Red Point Source	20	3.0	1.7
FLV160	Red Diffused	20	2.0	1.7
FLV310	Green Diffused	20	3.2	2.3
FLV311	Green Point Source	20	3.2	2.3
FLV340	Green Diffused	20	3.2	2.3
FLV350	Green Diffused	20	3.2	2.3
FLV360	Green Diffused	20	3.2	2.3
FLV410	Yellow Diffused	20	3.2	2.3
FLV411	Yellow Point Source	20	3.2	2.3
FLV440	Yellow Diffused	20	3.2	2.3
FLV450	Yellow Diffused	20	3.2	2.3
FLV460	Yellow Diffused	20	3.2	2.3
FLV510	Red Diffused	10	3.0	1.9
FLV511	Red Point Source	10	3.0	1.9
FLV540	Red Diffused	10	3.0	1.9

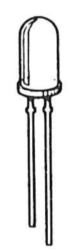
Notes:
*$I_F = 20$ mA

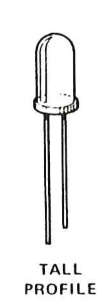












LED Visible Lamps (Cont'd)

Device No.	Lens Characteristic	I_F mA Typ	Luminous Intensity $I_F = 20$ mA mcd Typ	V_F $I_F = 20$ mA V Typ
FLV550	Red Diffused	10	3.0	1.9
FLV551	Red Point Source	10	3.0	1.9
FLV560	Red Diffused	10	3.0	1.9
MV5050	Clear Point Source	20	2.0	1.7
MV5051	White Diffused	20	1.6	1.7
MV5052	Red Point Source	20	2.0	1.7
MV5053	Red Diffused	20	1.6	1.7
MV5054-1	Red Semi-Diffused	10	2.0*	1.8
MV5054-2	Red Semi-Diffused	10	3.0*	1.8
MV5054-3	Red Semi-Diffused	10	4.0*	1.8
MV5152	Amber Point Source	20	20	2.0
MV5153	Amber Diffused	20	4.0	2.0
MV5154	Amber Diffused	20	4.0	2.0
MV5252	Green Point Source	20	3.0	2.2
MV5253	Green Diffused	20	1.5	2.2
MV5254	Green Diffused	20	1.6	2.2
MV5352	Yellow Point Source	20	10	2.3
MV5353	Yellow Diffused	20	6.0	2.3
MV5354	Yellow Diffused	20	10	2.3
MV5752	Red Point Source	20	16	2.0
MV5753	Red Diffused	20	4.0	2.0
MV5754	Red Semi-Diffused	20	8.0	2.0
TIL209A	Red Diffused T-1	20	1.0	1.6
TIL211	Green Diffused T-1	20	4.0	1.6
TIL213	Yellow Diffused T-1	20	4.0	1.6

Notes:
*I_F=10mA

LED Lamp Mounting Hardware

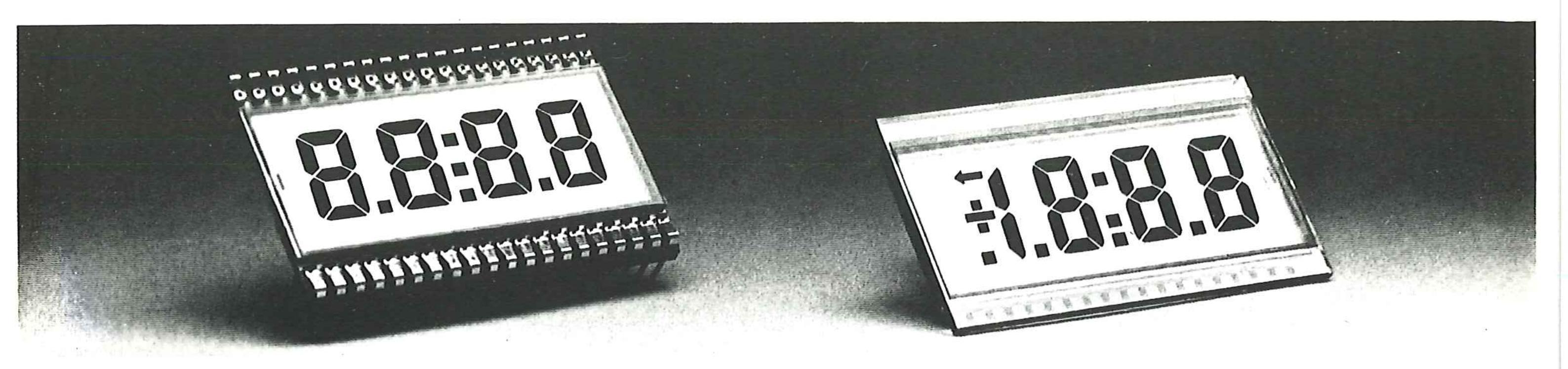
Device No.	Panel Thickness	Panel Hole	Description
FLS010	.060 to .250	.265 ±.002	Single-Part Construction (Flat Black Finish)
MP52	0.125	.250 ±.003	Mounting Clip for MV Series Lamps

7-Segment
Numeric Displays

Device No.	Character Height Inches	Polarity	Color	Description	Decimal Point	Peak Current/Seg Pulse = 100 μs mA	V_F $I_F = 20$ mA/Seg V	Luminous Intensity/Seg $I_F = 20$ mA μcd
FND350	0.362	CA	Red	7-Segment Display	RH	200	1.7	450
FND357	0.362	CC	Red	7-Segment Display	RH	200	1.7	450
FND358	0.362	CC	Red	Overflow ±1 Digit	RH	200	1.7	450
FND360	0.362	CA	Red	7-Segment Display	RH	200	1.7	900
FND367	0.362	CC	Red	7-Segment Display	RH	200	1.7	900
FND368	0.362	CC	Red	Overflow ±1 Digit	RH	200	1.7	900
FND500	0.500	CC	Red	7-Segment Display	RH	200	1.7	600
FND501	0.500	CC	Red	Overflow ±1 Digit	RH	200	1.7	600
FND507	0.500	CA	Red	7-Segment Display	RH	200	1.7	600
FND508	0.500	CA	Red	Overflow ±1 Digit	RH	200	1.7	600
FND530	0.500	CC	Grn	7-Segment Display	RH	80	2.2	2000
FND531	0.500	CC	Grn	Overflow ±1 Digit	RH	80	2.2	2000
FND537	0.500	CA	Grn	7-Segment Display	RH	80	2.2	2000
FND538	0.500	CA	Grn	Overflow ±1 Digit	RH	80	2.2	2000
FND540	0.500	CC	Yel	7-Segment Display	RH	80	2.2	2000
FND541	0.500	CC	Yel	Overflow ±1 Digit	RH	80	2.2	2000
FND547	0.500	CA	Yel	7-Segment Display	RH	80	2.2	2000
FND548	0.500	CA	Yel	Overflow ±1 Digit	RH	80	2.2	2000
FND550	0.500	CC	Amb	7-Segment Display	RH	80	2.2	2000
FND551	0.500	CC	Amb	Overflow ±1 Digit	RH	80	2.2	2000
FND557	0.500	CA	Amb	7-Segment Display	RH	80	2.2	2000
FND558	0.500	CA	Amb	Overflow ±1 Digit	RH	80	2.2	2000
FND560	0.500	CC	Red	7-Segment Display	RH	200	2.2	1200
FND561	0.500	CC	Red	Overflow ±1 Digit	RH	200	1.7	1200
FND567	0.500	CA	Red	7-Segment Display	RH	200	1.7	1200
FND568	0.500	CA	Red	Overflow ±1 Digit	RH	200	1.7	1200
FND800	0.800	CC	Red	7-Segment Display	RH	200	1.7	600
FND807	0.800	CA	Red	7-Segment Display	RH	200	1.7	600
FND6710	0.560	CA	Red	Dual Digit Display	RH	200	1.7	500
FND6740	0.560	CC	Red	Dual Digit Display	RH	200	1.7	500
MAN71A	0.300	CA	Red	7-Segment Display	RH	200	1.7	450
MAN72A	0.300	CA	Red	7-Segment Display	LH	200	1.7	450
MAN73A	0.300	CA	Red	Overflow ±1 Digit	None	200	1.7	450
MAN74A	0.300	CC	Red	7-Segment Display	RH	200	1.7	450
FNA12	0.050	Both	Red	12-element Bar Display		80	1.7	200

Digits New Products 1980

FND330	0.362	CA	Grn	7-Segment Display	RH			
FND337	0.362	CC	Grn	7-Segment Display	RH			
FND338	0.362	CA	Grn	Overflow ± 1 Digit	RH	Consult		
MAN3610A	0.300	CA	Amb	7-Segment Display	RH	FAIRCHILD		
MAN3640A	0.300	CC	Amb	7-Segment Display	RH	Office		
MAN6610	0.560	CA	Amb	Dual Digit Display	RH			
MAN6640	0.560	CC	Amb	Dual Digit Display	RH			



Liquid Crystal Displays

Device	Description
WATCH DISPLAYS (1)	
FLC3504-1	Ladies' 3½-digit
FLC3504-3	Ladies' thin 3½-digit
FLB3504-6	Ladies' 3½-digit (with alarm)
FLC3505-1	Men's 3½-digit
FLC3505-2	Men's 3½-digit
FLB3505-7	Men's 3½-digit (with alarm)
FLB3506-1	Men's 3½-digit
FLC3507-1	Men's 3½-digit
FLC5505-1	Men's 5½-digit
FLC5505-3	Men's 5½-digit (with day of the week flag)
FLC5505-4	Men's 5½-digit
FLC5505-5	Men's 5½-digit
FLB5505-6	Men's 5½-digit
FLC6005-4	Men's 6-digit Stop Watch
FLC6005-5	Men's 6-digit (6° slant on digits)
FLC6504-1	6-digit Alarm/chronograph
FLC6504-2	6-digit Alarm/chronograph
FLB6505-1	Men's 6-digit
LARGE AREA DISPLAYS (2)	
FLB3513B1/C1/B2/C2	3½-digit Clock/DPM
FLB4013B1/C1/B2/C2	4-digit Clock/DPM

Note 1: Also available in A1 version, without polarizers and B1 version with rear transflector

Note 2: B1 version with rear transflector, B2 version with rear transflector and dual in-line pin package, C1 version with rear reflector, C2 version with rear reflector and dual in-line pin package.

LCD New products 1980

Device	Description
FLB1208	12-digit/8 mm Instrumentation
FLB3511	3½-digit/11 mm Clock/DPM
FLB4010	4-digit/10 mm Car Radio
FLB4018	4-digit/18 mm Clock/DPM
FLB8009	8-digit/14 segments/9 mm



Couplers—Transistor Output

Device No.	P_D mW	Transistor I_C mA	Transistor V_{CEO} V	Diode V_R V	Diode I_F mA	V_{ISO} kV
		Max Ratings @ T_A 25°C				
FCD810 (1)	250	25	20	3.0	60	1.5 ac
FCD810C (1)	250	25	20	3.0	60	5.0
FCD820 (1,3)	250	25	30	3.0	60	1.5 ac
FCD820C (1)	250	25	30	3.0	60	5.0
FCD825 (1,5)	250	25	30	3.0	60	1.5 ac
FCD825C (1,5)	250	25	30	3.0	60	5.0
FCD830 (2,3).	250	25	30	3.0	60	1.5
FCD830C (2)	250	25	30	3.0	60	5.0
FCD831 (2)	250	25	30	3.0	60	1.5 ac
FCD831C (2)	250	25	30	3.0	60	5.0
FCD836 (2)	250	25	20	3.0	60	1.5 ac
FCD836C (2)	250	25	20	3.0	60	5.0
4N25 (4)	250	—	30	3.0	80	2.5
4N26 (4)	250	—	30	3.0	80	1.5
4N27 (4)	250	—	30	3.0	80	1.5
4N28 (4)	250	—	30	3.0	80	0.5
4N35 (4)	400	—	30	6.0	60	3.5
4N36 (4)	400	—	30	6.0	60	2.5
4N37 (4)	400	—	30	6.0	60	1.5
H11A1	250	100	30	3.0	60	2.5
H11A2	250	100	30	3.0	60	1.5
H11A3	250	100	30	3.0	60	2.5
H11A4	250	100	30	3.0	60	1.5
H11D1	250	25	300	6.0	50	2.5
H11D2	250	25	300	6.0	50	1.5
H11D3	250	25	200	6.0	50	1.5
H11D4	250	25	200	6.0	50	1.5
MCT2	250	—	30	3.0	60	1.5
MCT2E	250	—	30	3.0	60	2.5
MCT26	250	—	30	3.0	60	1.5

Notes:
1. Standard transistor output
2. High-speed transistor output guaranteed 2.0 μs max t_r and t_f with 100 Ω RL
   8.0 μs typ at 1K Ω RL
3. CTR guaranteed with transistor in saturation
4. JEDEC registered data and conditions
5. CTR typ at 1.0 mA = 40%

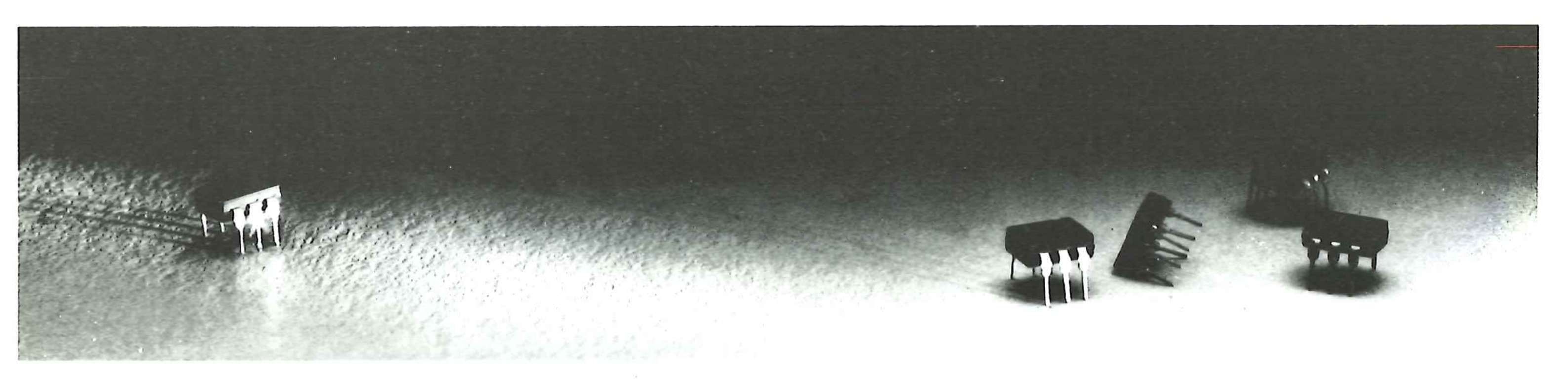
New Products 1980 Dual Couplers

Device No.	P_D mW	I_C mA	V_{CEO} V	V_R V	I_F mA	V_{ISO} kV
FCD880	400	30	30	3.0	60	2.5
FCD885	400	30	30	3.0	60	2.5
ILD74	400	30	20	3.0	100	1.5
MCT6	400	30	30	3.0	60	1.5
MCT66	400	30	30	3.0	60	1.5



Coupled Characteristics				Input Diode Characteristics		Output Transistor Characteristics		
Min Current	Transfer Ratio		t_r, t_f	V_F		$V_{CE(sat)}$		
I_C/I_F %	@ I_F mA	@ V_{CE} V	µs Typ	V Max	@ I_F mA	V Max	@ I_C mA	@ I_F mA
10	10	10	4.0	1.5	10	0.7	2.6	50
10	10	10	4.0	1.5	10	0.7	2.6	50
20	10	0.4	2.5	1.5	60	0.4	2.0	10
20	10	10	2.5	1.5	60	0.4	2.2	15
50	10	10	3.0	1.5	60	0.4	2.0	10
50	10	10	3.0	1.5	60	0.4	2.0	10
20	10	0.4	1.6	1.5	60	0.4	2.0	10
20	10	10	1.6	1.5	60	0.4	2.2	15
10	10	10	1.6	1.5	60	0.5	2.0	50
10	10	10	1.6	1.5	60	0.5	2.0	50
6.0	10	10	1.6	1.5	20	0.7	2.0	50
6.0	10	10	1.6	1.5	20	0.7	2.0	50
20	10	10	2.5	1.5	50	0.5	2.0	50
20	10	10	2.5	1.5	50	0.5	2.0	50
10	10	10	2.5	1.5	50	0.5	2.0	50
10	10	10	2.5	1.5	50	0.5	2.0	50
100	10	10	8.0	1.5	10	0.3	0.5	10
100	10	10	8.0	1.5	10	0.3	0.5	10
100	10	10	8.0	1.5	10	0.3	0.5	10
50	10	10	2.0	1.5	10	0.4	0.5	10
20	10	10	2.0	1.5	10	0.4	0.5	10
20	10	10	2.0	1.5	10	0.4	0.5	10
10	10	10	2.0	1.5	10	0.4	0.5	10
20	10	10	5.0	1.5	10	0.4	0.5	10
20	10	10	5.0	1.5	10	0.4	0.5	10
20	10	10	5.0	1.5	10	0.4	0.5	10
10	10	10	5.0	1.5	10	0.4	0.5	10
20	10	10	2.5	1.5	20	0.4	2.0	16
20	10	10	2.5	1.5	20	0.4	2.0	16
6.0	10	10	2.0	1.5	20	0.5	1.6	60

30	10	10	2.0	1.25	60	0.4	2.0	16
10	10	10	2.0	1.25	60	0.3	0.25	20
12.5	16	5	6.0	1.3	60	0.5	2.0	16
20	10	10	2.0	1.25	20	0.4	2.0	16
6	10	10	2.0	1.25	20	0.4	2.0	40



Couplers– Transistor Output (Cont'd)

Max Ratings @ $T_A = 25°C$

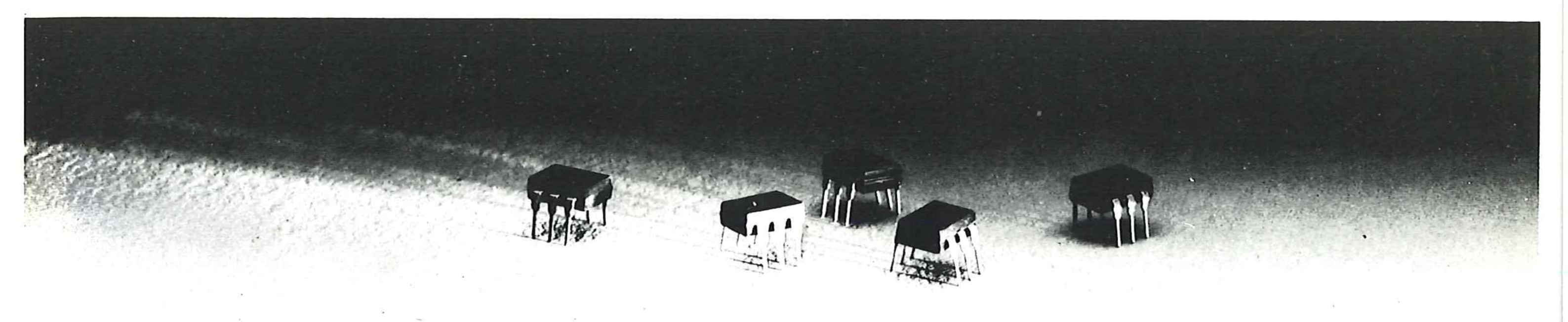
Device No.	P_D mW	Transistor I_C mA	V_{CEO} V	Diode V_R V	I_F mA	V_{ISO} kV
TIL111 (3)	250	—	30	3.0	100	1.5
TIL112	250	—	20	3.0	100	1.5
TIL114 (3)	250	—	30	3.0	100	2.5
TIL115	250	—	20	3.0	100	2.5
TIL116	250	—	30	3.0	100	2.5
TIL117	250	—	30	3.0	100	2.5
TIL118	250	—	20	3.0	100	1.5

Couplers– Darlington Output

Max Ratings @ $T_A = 25°C$

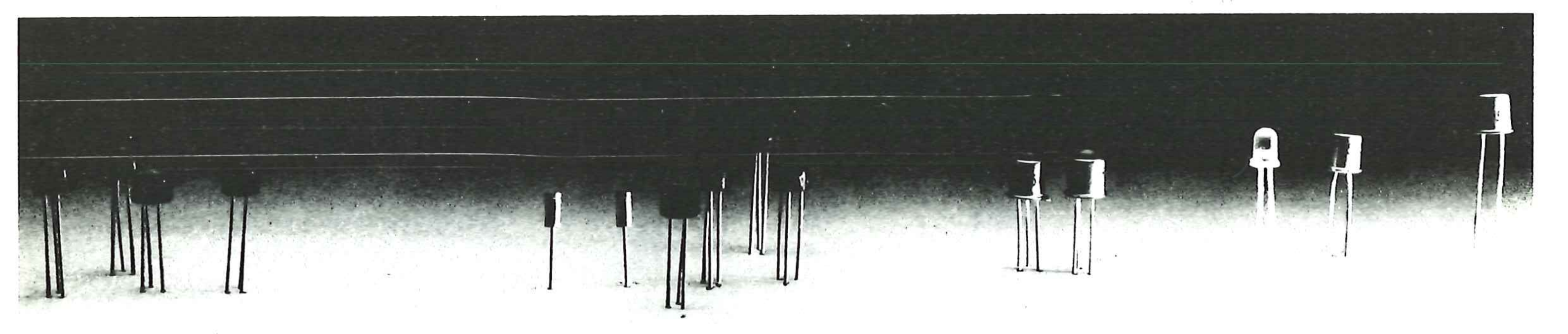
Device No.	P_D mW	Transistor I_C mA	V_{CEO} V	Diode V_R V	I_F mA	V_{ISO} kV
FCD850	250	125	30	3.0	80	1.5 ac
FCD850C	250	125	30	3.0	80	5.0
FCD855	250	125	55	3.0	80	1.5 ac
FCD855C	250	125	55	3.0	80	5.0
FDC860 (3)	250	125	30	3.0	80	1.5 ac
FCD860C (3)	250	125	30	3.0	80	5.0
FCD865 (3)	250	125	30	3.0	80	1.5 ac
FCD865C (3)	250	125	30	3.0	80	5.0
4N29 (4)	250	125	30	3.0	80	2.5
4N30 (4)	250	125	30	3.0	80	1.5
4N31 (4)	250	125	30	3.0	80	1.5
4N32 (4)	250	125	30	3.0	80	2.5
4N33 (4)	250	125	30	3.0	80	1.5
H11B1	250	100	25	3.0	60	2.5
H11B2	250	100	25	3.0	60	1.5
TIL113 (3)	250	—	30	3.0	100	1.5
TIL119	250	—	30	3.0	100	1.5
MCA230	250	—	30	3.0	60	1.5
MCA231 (3)	250	50	30	3.0	60	1.5
MCA255	250	—	55	3.0	60	1.5

Notes:
1. Standard transistor output
2. High-speed transistor output guaranteed 2.0 µs max t_r and t_f with 100 Ω RL
   8.0 µs typ at 1K Ω RL
3. CTR guaranteed with transistor in saturation
4. JEDEC registered data and conditions
5. CTR typ at 1.0 mA = 40%



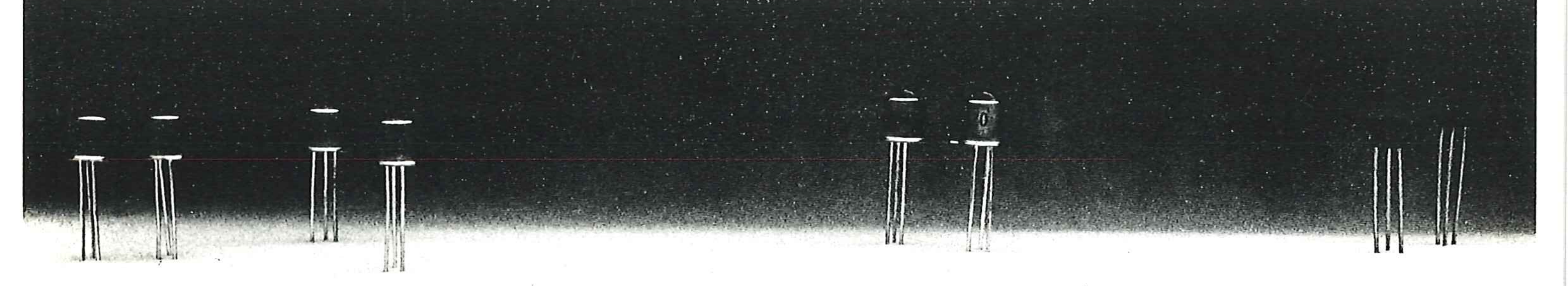
Coupled Characteristics				Input Diode Characteristics		Output Transistor Characteristics		
Min Current	Transfer Ratio		t_r, t_f	V_F		$V_{CE(sat)}$		
I_C/I_F %	@ I_F mA	@ V_{CE} V	μs Typ	V Max	@ I_F mA	V Max	@ I_C mA	@ I_F mA
12	16	0.4	5.0	1.4	16	0.4	2.0	16
2.0	10	5.0	15	1.5	10	0.5	2.0	50
12	16	0.4	5.0	1.4	16	0.4	2.0	16
2.0	10	5.0	15	1.5	10	0.5	2.0	50
20	10	10	7.0	1.5	60	0.4	2.2	15
50	10	10	9.0	1.4	16	0.4	0.5	10
10	10	5.0	15	1.5	10	0.5	2.0	50

Coupled Characteristics					Input Diode Characteristics		Output Darlington Characteristics	
Min Current	Transfer Ratio		t_r	t_f	V_F		I_{CEO}	
I_C/I_F %	@ I_F mA	@ V_{CE} V	μs Typ	μs Typ	V Max	@ I_F mA	μA Max	@ V_{CE} V
100	10	5.0	15	150	1.5	20	0.1	10
100	10	5.0	15	150	1.5	20	0.1	10
100	10	5.0	15	150	1.5	20	0.1	10
100	10	5.0	15	150	1.5	20	0.1	10
200	1.0	1.0	80	150	1.5	20	0.1	10
200	1.0	1.0	80	150	1.5	20	0.1	10
400	0.5	1.0	80	150	1.5	20	0.1	10
400	0.5	1.0	80	150	1.5	20	0.1	10
100	10	10	10	45	1.5	50	0.1	10
100	10	10	10	45	1.5	50	0.1	10
50	10	10	10	45	1.5	50	0.1	10
500	10	10	10	120	1.5	50	0.1	10
500	10	10	10	120	1.5	50	0.1	10
500	1.0	5.0	125	100	1.5	10	0.1	10
200	1.0	5.0	125	100	1.5	10	0.1	10
300	10	1.0	50	50	1.5	10	0.1	10
300	10	2.0	50	50	1.5	10	0.1	10
100	10	5.0	5.0	35	1.5	20	0.1	10
200	5.0	1.0	5.0	35	1.5	10	0.1	10
100	10	5.0	5.0	35	1.5	20	0.1	10



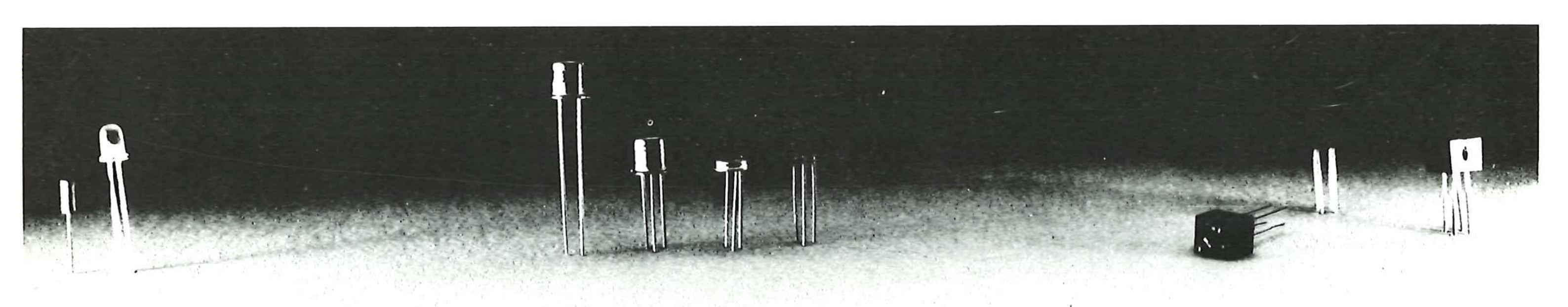
Phototransistors

Device No.	Description	V_{CEO} I_C = 1.0 mA V Min	V_{CEO} Typ	$I_{CE(lt)}$ V_{CE} = 5.0 V mA Condition	$I_{CE(lt)}$ Min	$I_{CE(lt)}$ Typ	$I_{CE(lt)}$ Max	$V_{CE(sat)}$ H = 20 mW/cm^2 V Condition	$V_{CE(sat)}$ Min	$V_{CE(sat)}$ Typ	$V_{CE(sat)}$ Max	t_r/t_f μs Typ
FPT100	Plastic, Dome Lens General Purpose	30	50	H = 5.0 mW/cm^2	0.2	1.4	—	I_C = 500 μA	—	0.16	0.3	2.8
FPT100A	Plastic, Dome Lens 1:3 Sensitivity	30	50	H = 5.0 mW/cm^2	1.0	1.4	3.0	I_C = 500 μA	—	0.16	0.3	2.8
FPT100B	Plastic, Dome Lens 1:2 Sensitivity	30	50	H = 5.0 mW/cm^2	1.3	1.4	2.6	I_C = 500 μA	—	0.16	0.3	2.8
FPT101	Miniature, .080" Dia. Hermetic Package	I_C = 0.1 mA H ≤ 0.1 μW/cm 30	60	H = 20 mW/cm^2	0.8	3.5	—	I_C = 0.4 mA	—	0.25	0.3	2.8
FPT110	Plastic Flat Lens General Purpose	30	50	H = 5.0 mW/cm^2	0.2	0.88	—	I_C = 500 μA	—	0.16	0.33	2.8
FPT110A	Plastic Flat Lens 1:3 Sensitivity	30	50	H = 5.0 mW/cm^2	0.6	0.88	1.8	I_C = 500 μA	—	0.16	0.33	2.8
FPT110B	Plastic Flat Lens 1:2 Sensitivity	30	50	H = 5.0 mW/cm^2	0.8	0.88	1.6	I_C = 500 μA	—	0.16	0.33	2.8
FPT120	Plastic Dome Lens High Sensitivity	20	50	H = 1.0 mW/cm^2	0.4	1.5	—	I_C = 1.0 mA	—	0.25	0.55	18
FPT120A	Plastic, Dome Lens 1:3 Sensitivity	15	30	H = 1.0 mW/cm^2	1.5	2.4	4.5	I_C = 1.0 mA	—	0.25	0.55	18
FPT120B	Plastic, Dome Lens 1:1.5 Sensitivity	15	30	H = 1.0 mW/cm^2	2.0	2.4	4.0	I_C = 1.0 mA	—	0.25	0.55	18
FPT120C	Plastic Cup Dome Lens	11	20	H = 5.0 mW/cm^2	16	—	25	I_C = 1.0 mA	—	0.35	0.55	18
FPT130	Plastic, Flat Lens High Sensitivity	20	50	H = 1.0 mW/cm^2	0.4	0.9	—	I_C = 1.0 mA	—	0.25	0.55	18
FPT130A	Plastic, Flat Lens 1:3 Sensitivity	15	30	H = 1.0 mW/cm^2	0.9	1.5	2.7	I_C = 1.0 mA	—	0.25	0.55	18
FPT130B	Plastic, Flat Lens 1:2 Sensitivity	15	30	H = 1.0 mW/cm^2	1.2	1.5	2.4	I_C = 1.0 mA	—	0.25	0.55	18
FPT131	Plastic, Dome Lens	15	50	H = 5.0 mW/cm^2	0.1	1.4	—	I_C = 500 μA	—	0.16	0.7	2.8
FPT132	Plastic, Dome Lens	10	30	H = 1.0 mW/cm^2	0.2	1.5	—	I_C = 1.0 mA	—	0.15	0.7	18
FPT136	Plastic, Flat Lens	15	50	H = 5.0 mW/cm^2	0.1	0.88	—	I_C = 500 μA	—	0.16	0.7	2.8
FPT137	Plastic, Flat Lens	10	30	H = 1.0 mW/cm^2	0.2	0.9	—	I_C = 1.0 mA	—	0.15	0.7	18
FPT[illegible]20	Plastic, Dome Lens 1:2 Sensitivity	20	50	H = 1.0 mW/cm^2	1.0	1.5	2.0	I_C = 1.0 mA	—	0.25	0.55	18



Phototransistors (Cont'd)

Device No.	Description	V_{CEO} I_C = 1.0 mA V		$I_{CE(lt)}$ V_{CE} = 5.0 V mA				$V_{CE(sat)}$ H = 20 mW/cm² V				t_r/t_f μs
		Min	Typ	Condition	Min	Typ	Max	Condition	Min	Typ	Max	Typ
FPT230	Plastic, Flat Lens 1:2 Sensitivity	20	50	H = 1.0 mW/cm²	0.6	0.9	1.2	I_C = 1.0 mA	—	0.25	0.55	18
FPT320	Plastic, Dome Lens 1:3 Sensitivity	20	50	H = 1.0 mW/cm²	0.75	1.5	2.25	I_C = 1.0 mA	—	0.25	0.55	18
FPT330	Plastic, Flat Lens 1:3 Sensitivity	20	50	H = 1.0 mW/cm²	0.45	0.9	1.35	I_C = 1.0 mA	—	0.25	0.55	18
FPT400	Plastic, Dome Lens Photo Darlington	30	50	H = 1.0 mW/cm²	7.5	12	—		—	0.9	1.0	100
FPT410	Plastic, Flat Lens Photo Darlington	30	50	H = 1.0 mW/cm²	5.0	8.0	—		—	0.9	1.0	100
FPT500	TO-18, Dome Lens	45	60	H = 1.0 mW/cm²	1.0	—	—		—	0.2	0.33	3.0
FPT500A	TO-18, Dome Lens 1:3 Sensitivity	45	60	H = 1.0 mW/cm²	2.0	—	6.0		—	0.2	0.33	3.0
FPT510	TO-18, Flat Lens	45	60	H = 5.0 mW/cm²	0.5	—	—		—	0.2	0.33	3.0
FPT510A	TO-18, Flat Lens 1:3 Sensitivity	45	60	H = 5.0 mW/cm²	1.0	—	3.0		—	0.2	0.33	3.0
FPT520	TO-18, Dome Lens	30	50	H = 1.0 mW/cm²	5.0	—	—		—	0.2	0.33	10
FPT520A	TO-18, Dome Lens 1:3 Sensitivity	30	50	H = 1.0 mW/cm²	6.0	—	18		—	0.2	0.33	10
FPT530	TO-18, Flat Lens	30	50	H = 5.0 mW/cm²	3.0	—	—		—	0.2	0.33	10
FPT530A	TO-18, Flat Lens 1:3 Sensitivity	30	50	H = 5.0 mW/cm²	4.0	—	12		—	0.2	0.33	10
FPT540	TO-18, Dome Lens	12	20	H = 1.0 mW/cm²	8.0	—	—		—	0.35	0.55	18
FPT540A	TO-18, Dome Lens 1:3 Sensitivity	12	20	H = 1.0 mW/cm²	10	—	30		—	0.35	0.55	18
FPT550	TO-18, Flat Lens	12	20	H = 5.0 mW/cm²	8.0	—	—		—	0.35	0.55	18
FPT550A	TO-18, Flat Lens 1:3 Sensitivity	12	20	H = 5.0 mW/cm²	8.0	—	24		—	0.35	0.55	18
FPT560	TO-18, Dome Lens Photo Darlington	30	50	H = 0.5 mW/cm²	10	15	—		—	0.9	1.0	100
FPT570	TO-18, Flat Lens Photo Darlington	30	50	H = 0.5 mW/cm²	1.0	6.0	—		—	0.9	1.0	100
FPT700	T1, Clear Plastic Phototransistor	15	50	H = 5.0 mW/cm²	0.10	0.88	—		—	0.16	0.7	2.8



Photodiodes

Device No.	Description	BV $I_R = 5.0\ \mu A$, $H \leq 0.1\ \mu W/cm^2$ Min	BV Typ	V_R V	I_R $V_R = -10\ V$, $H \leq 0.1\ \mu W/cm^2$ Typ	I_R Max	I_{LT} $V_R = -10\ V$ $H = 20\ mWcm^2$ Min	I_{LT} Typ
FPT102	Photodiode Hermetic Package	50	20	50	0.1	25	12	20
FPT720	Photodiode T1 Clear Epoxy	120	160	50	0.3	35	15	25

Device No.	Description	R(Tungsten) Responsivity $\mu A/mW/cm^2$ TC = 2854°K Min	R(Tungsten) Typ	R @ 0.9 μ Responsivity $\mu A/mW/cm^2$ No bias, GaAs Typ
FPT102	Photodiode Hermetic Package	0.6	1.0	3.0
FPT720	Photodiode T1 Clear Epoxy	0.6	1.0	3.9

Photoemitters

Device No.	Description	I_F mA Max	V_F $I_F = 100$ mA V Typ	Wave Length @ Peak Emission nm Typ	Axial Intensity $I_F = 100$ mA mW/sr Typ
FPE100	Metal Header Package Wide Beam	100	1.35	890	0.3
FPE104	Lead Frame Package Narrow Beam	100	1.35	890	10
FPE500	TO-18, Dome Lens	250	1.35	890	10
FPE510	TO-18, Flat Lens	250	1.35	890	1.0
FPE520	TO-18, Dome Lens	250	1.35	940	50
FPE530	TO-18, Flat Lens	250	1.35	940	5.0

Photosensors

Device No.	Description	Diode I_F mA Max	Diode V_F $I_F = 20$ mA V Typ	Photo-Transistor V_{CEO} $I_{CE} = 1.0$ mA V Min	Combined I_{OUT} $I_F = 50$ mA, $V_{CE} = 5.0$ V distance = .40" μA Min	Combined μA Max
FPA103/106	Light Reflective Transducer	75	1.25	12	20	—
FPA104/107	Light Reflective Transducer	75	1.25	12	60	180
FPA105/108	Light Reflective Transducer	75	1.25	12	80	160

Photoemitters New Products 1980

Device No.	Description	I_F mA Max	V_F $I_F = 100$ mA V Typ	Wave Length nm Typ	Axial Intensity $I_F = 100$ mA mW/sr Typ
FPE700	Photodiode T1 Clear Epoxy	40	1.35	900	2.0



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